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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,239	12/15/2003	Hul Chun Hsu	OP-092000366	2292
46103	7590	04/09/2008		
HDSL 4331 STEVENS BATTLE LANE FAIRFAX, VA 22033			EXAMINER AFZALI, SARANG	
			ART UNIT 3726	PAPER NUMBER
			MAIL DATE 04/09/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/734,239	<b>Applicant(s)</b> HSU, HUL CHUN	
	<b>Examiner</b> SARANG AFZALI	<b>Art Unit</b> 3726	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on Amendment filed 1/9/2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

1. The Applicant's amendment filed on 1/9/2008 has been fully considered and made of record. The amendment to claims filed 1/9/2008 erroneously lists claims 7-11 as being "withdrawn" since claims 7-11 were "cancelled" by the Applicant in an amendment filed 3/21/2007 in response to the restriction requirements mailed 6/1/2006. Therefore, only claims 1-6 are currently pending in the application. Claims 7-11 have been cancelled.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Basiulis (U.S. 4,106,171).

As applied to claims 1 and 2, Basiulis teaches a method of making a heat pipe (heat pipe 10 including enclosure 12 and end cap 14, Figs. 1-3) by removing non-condensing gas, comprising:

filling a predetermined amount of liquid working fluid into the heat pipe with an opening (16) on a top end thereof;

heating the heat pipe to obtain the working fluid at a saturated temperature (boiling point);

maintaining the saturated temperature to have the working fluid being evaporated and boiled, such that the non-condensing gas within the heat pipe is discharged by vapor of the working fluid; and

sealing the opening when a predetermined amount of the vapor of the working fluid is discharged (col. 2, lines 38-48).

Note that the saturated temperature indicates a boiling point of the working fluid in order to evaporate it and since there are different temperatures at which a liquid boils, therefore, Basiulis teaches the steps of heating at a saturated temperature and maintaining that temperature as claimed.

As applied to claim 3, Basiulis teaches that the size of the opening (16) is reduced (Fig. 3, col. 2, lines 34-37).

As applied to claims 4-6, Basiulis teaches that the working fluid is mildly evaporated (as the heat pipe is heated up to the saturation temperature of the working fluid), acceleratedly evaporated (as the heat pipe is heated to a temperature above the saturation temperature of the working fluid but below the melting point of the material of the heat pipe) and that the temperature kept around the opening is not less than the saturated temperature of the working fluid (claim 1, lines 16-26).

***Response to Arguments***

4. Applicant's arguments filed 1/9/2008 have been fully considered but they are not persuasive.
5. Applicant's main argument (Remarks, page 1) is that Basiulis discloses to heat the heat pipe to a temperature above the saturation temperature of the working fluid and therefore does not teach heating at a saturated temperature and maintaining the saturated temperature in order to evaporate the working fluid to discharge the non-condensing gas within the heat pipe.

The Examiner respectfully disagrees with the above arguments. The Examiner believes that considering the broadest reasonable claim interpretation, a saturated temperature indicates a boiling temperature of a working fluid in order to evaporate the fluid and that there are different temperatures at which a particular liquid boils and evaporates. Therefore, Basiulis' teaching of "heated to a temperature above the saturation temperature of the working fluid within enclosure 12" (col. 2, lines 4-42) would still be readable on the claimed limitation of "at a saturated temperature."

Note that Applicant is not disclosing how exact and precise these saturation temperatures should be, and the claim language has been construed as setting forth only a "minimum" saturated temperature, with no explicit maximum value.

Furthermore, Basiulis' teaching of "above the saturation temperature" could be only a minimal amount over the saturation temperature of the Applicant and as such, well within the temperature tolerances for any heating and measuring equipments.

***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SARANG AFZALI whose telephone number is (571)272-8412. The examiner can normally be reached on 7:00-3:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on 571-272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sarang Afzali/  
Examiner, Art Unit 3726  
3/31/2008

/David P. Bryant/  
Supervisory Patent Examiner, Art Unit 3726